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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,259	06/11/2001	Michael Schmidt	MERCK-2272	8004

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EXAMINER

SMALL, ANDREA D SOUZA

ART UNIT PAPER NUMBER

1626

DATE MAILED: 04/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,259

Applicant(s)

SCHMIDT ET AL.

Examiner

Andrea D Small

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) ☐ Of the above claim(s) 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

I. Applicant's Response:

- (a) Applicants response filed 3/11/03 has been received and entered as paper no. 6
- (b) Claims 12 and 13 have been newly added. No new matter has been added.

II. Election/Restriction:

- (a) Applicants election: Applicants have elected group I, claims 1-7, specifically example 1 of claim 13 with traverse.

(b) The traversal is on the grounds that the relationship between the groups is misstated as intermediate-final product. The examiner agrees with the Applicant, but believes that the reasoning that follows indicates reasoning as to why the restriction is proper.

Group I, claim 1-7 drawn to product of claim 1.

Group II, claims 8, 10-11, drawn to an electrochemical cell employing the compound of claim 1.

Group III, claim 9, drawn to a capacitor also employing the product of claim 1.

Inventions of group I and groups II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product of group I may be used in two materially different ways, one in an electrochemical cell and the other in a capacitor.

Inventions of group II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different

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inventions. Instantly, the electrochemical cell and the capacitor are not disclosed as useable together and they have different modes of operation by virtue of the number of electrodes employed or the utility and quantity of energy stored.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

(c) The Generic Concept:

As per the restriction/election outlined in paper no. 5, the generic concept is as follows:

Product of Claim 1 wherein:

K⁺ is imidazolium cation, where the R groups are as claimed; and

A⁻ is an anion as claimed.

Claims 1-7 and 12-13 are readable on the elected group as identified supra. Parts of claims 1-7 and claims 8-11 are withdrawn from consideration as being drawn to non-elected inventions. 37 CFR 1.142(b).

III. Rejections:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch, et al.

Applicants claims are drawn to an ionic liquid of formula in claim 1 wherein K^+ is an imidazolium and A^- is a $[PF_x(CyF_2y+1-zHz)_6-x]^-$.

Determination of the scope and content of the prior art (MPEP §2141.01)

The prior art discloses an ionic liquid wherein the cation is an imidazolium and the anion is selected from $(CF_3)_2PF_4^-$; $(CF_3)_3PF_3^-$; $(CF_3)_2PF_2^-$; $(CF_3)PF^-$. See claim 1 and claim 11. See also Example V and Table 3, line 8. Specific examples of cation that falls under the genus of the instantly claimed genus for the cation and anion that falls under the genus of the instantly claimed genus of the anion.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the prior art and the instant claims, if any, is that the prior art does not specifically exemplify the cation and anion disclosed together in the same example.

Finding of prima facie obviousness---rationale and motivation (MPEP §2142-2413)

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However, it would be prima facie obvious for one of ordinary skill in the art to make additional useful electrochemical ionic liquid as is instantly claimed by employing the cations and anions specifically taught and preferred in the Koch reference, see col. 3, lines 50-60 and col. 2 lines 19-63, because the cations and anions taught and disclosed in Koch specifically disclose that these anions and cations have improved properties in non-aqueous batteries, electrochemical capacitors, etc. See col. 1-col. 2

IV. Contact Information:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea D. Small, whose telephone number is (703) 305-0811. The examiner can normally be reached on Monday-Thursday from 8:30 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph K. McKane, can be reached at (703) 308-4537. The Unofficial fax phone number for this Group is (703) 308-7921. The Official fax phone numbers for this Group are (703) 308-4556 or 305-3592.

When filing a FAX in Technology Center 1600, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [Joseph.McKane@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via Internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record an express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-1234



Alan Rotman
Supervisory Patent Examiner

Andrea D. Small, Esq.
April 16, 2003